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I. M. GEL'FAND AND N. P. YERUGIN, MATHEMATICAL PHYSICISTS, WINNERS OF 1950 STALIN PRIZES

Izrail' Moiseyevich Gel'fand, Doctor of Physicomathematical Sciences and director of a sector in the Mathematical Institute imeni V. A. Steklov, Academy of Sciences USSR, was honored with the Stalin Prize, Second Class, for his work on the theory of group representations, published 1948 - 1950 in Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki and in Trudy Matematicheskogo Instituta imeni V. Z. Steklova.

A theory of unitary representation groups, which gives a new method for the solution of various problems, is constructed by Gel'fand. All irreducible unitary representations of the Lorentz group are found, and it is shown that every representation is decomposable into irreducible ones. The unitary representations of classical groups are investigated. An analog of the classical theory of characters is constructed for them. Completeness of the system of representations is established with the aid of decomposition of functions into groups by means of irreducible representations. General formulas are obtained that determine the general relativistic form of invariant first-order equations relative to the wave function which has a finite of infinite number of components. It is explained in which case these equations can be obtained from the invariant Lagrange function.

Nikolay Pavlovich Yerugin, Doctor of Physicomathematical Sciences and senior scientific worker of the Leningrad Division of the Mathematical Institute imeni V. A. Steklov, Academy of Sciences USSR, was honored with the Stalin Prize, Third Class, for his investigations in the field of stability of motion and qualitative and analytic theory of differential equations which were published 1950 in the journal Prikladnaya Matematika i Mekhanika.

In his two works, "Some Problems on the Stability of Motion and the Qualitative Theory of Differential Equations in the Large" and "Qualitative Investigation of Integral Curves of Systems of Differential Equations," the author develops the general theory of the stability of motion and the qualitative theory in the large. The latter is applied to the practical investigation

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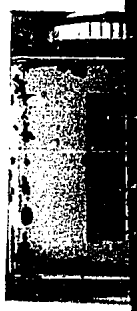

of several concrete systems of differential equations that originate in the theory of regulation (servomechanics) and relate to all kinds of doubtful cases on the entire phase plane (topological studies).

In these works new methods for the solution of local problems on the qualitative theory and stability of motion (in the neighborhood of a point of equilibrium in the phase space) are given and also a method for the detection of limit cycles.

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